

1                                   **WASHINGTON DEPARTMENT OF ECOLOGY**  
2   **MAIL STOP 7600**  
3   **OLYMPIA, WASHINGTON 98504**

4  
5 **IN THE MATTER OF:**                   ]       **NO. PSD-92-03 AMENDMENT 4**  
6   ]       **FINAL APPROVAL OF PSD**  
7 **Weyerhaeuser Paper Company**   ]       **APPLICATION, AND**  
8 **3401 Industrial Way**                   ]       **ORDER NO. 92AQ1069 AMENDMENT 4**  
9 **P.O. Box 188**                           ]       **FINAL APPROVAL OF NOC**  
10 **Longview, WA 98632**               ]       **APPLICATION**  
11  
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13 Pursuant to the U.S. Environmental Protection Agency (EPA) regulations for the Prevention of  
14 Significant Deterioration (PSD) in Title 40, Code of the Federal Regulations, Part 52, New  
15 Source Review (NSR) regulations in the Washington Administrative Code 173-400-110 and  
16 173-460-040, and based upon the complete Prevention of Significant Deterioration/Notice of  
17 Construction (PSD/NOC) Application submitted by the Weyerhaeuser Paper Company and the  
18 technical analysis performed by the Department of Ecology (Ecology), Ecology now finds the  
19 following:  
20

21 **FINDINGS**

- 22 1.     The Weyerhaeuser Paper Company is proposing to modify facilities at the Longview,  
23        Washington pulp and paper mill. The following modifications are the culmination of a  
24        project which was initiated in 1983 and are expected to raise mill pulp capacity from  
25        about 850 to about 1,200 bleached oven dry tons per day.
- 26        1.1.    The major component of the proposal consists of construction of a new fiber line  
27                (consisting of a new MCC kraft digester and associated washing and screening  
28                facilities, as well as a new chemical bleach plant) to improve pulping efficiency  
29                and to increase overall mill capacity to the capacity of the existing recovery  
30                boiler.
- 31        1.2.    Noncondensable gas (NCG) and dirty condensate collection and treatment systems  
32                will be built integral with the new fiber line. The black liquor evaporation system  
33                will be upgraded.
- 34        1.3.    The recovery boiler will be modified for operation with greater reliability, heat  
35                recovery efficiency, and overall throughput rate.
- 36        1.4.    A new 300,000 pounds per hour steam generation Package Boiler will be  
37                constructed. At Weyerhaeuser's option a 150,000 pounds per hour steam  
38                generation Package Boiler may be installed in place of the larger boiler.
- 39 2.     A Prevention of Significant Deterioration/Notice of Construction Modification  
40        application was submitted on November 21, 1991 and was determined to be complete on

41 April 28, 1992. A final approval was issued on February 9, 1993. Weyerhaeuser  
42 submitted a complete application for an amendment to the approval on April 7, 1993. A  
43 final approval for amendment 1 to this approval was issued on October 29, 1993.  
44 Weyerhaeuser submitted an application for a second amendment to the approval which  
45 was found to be complete on April 14, 1995. Amendment 2 was issued on September 19,  
46 1995. Ecology determined that the performance testing required in Condition 15 should  
47 be done by Reference Method 5 rather than by RM 201 or 201A on December 28, 1995,  
48 and initiated an administrative amendment to the approval, resulting in Amendment 3.  
49 On October 7, 1998, Weyerhaeuser submitted an application for a fourth amendment to  
50 the approval. The application was found to be complete by default on November 6, 1998.  
51 The proposed amendments were primarily intended to clarify and simplify conditions in  
52 the original permit. The following summarizes the amendments:

- 53 2.1 Deletion of the requirement in Condition 3 to perform a two year study to  
54 determine the PM<sub>10</sub> fraction of Recovery Boiler No. 10 emissions: The study has  
55 been completed.
- 56 2.2 Modification of SO<sub>2</sub> emissions limits in Condition 5 for Recovery Boiler No. 10  
57 for periods during which oil and black liquor are burned in combination.
- 58 2.3 Simplification of Conditions 12 and 13 to recognize that total reduced sulfur  
59 (TRS) and SO<sub>2</sub> emissions from the NCG incinerator are monitored with Recovery  
60 Boiler No. 10 emissions.
- 61 2.4 Reduction of PM<sub>10</sub> testing frequency in Condition 14: Historical emissions levels  
62 have averaged less than half the allowable limit.
- 63 2.5 Reduction of TRS testing frequency in Condition 16: Historical emissions levels  
64 have averaged less than one-fifth the allowable limit.
- 65 2.6 Increase the annual CO limit to 80 tons per year (from 60 tons per year) in  
66 Condition 22. Hourly emission limits are unchanged from the current permit.
- 67 2.7 Simplification of Conditions 18, 21, and 23 to acknowledge that only one 150,000  
68 pound per hour boiler was installed.
- 69 2.8 Deletion of Condition 24: This condition required dust control during  
70 construction of the original project. Construction is complete under this PSD.
- 71 3. The Longview mill qualifies as a major source of air pollutants because it is listed as a  
72 major stationary source under Title 40, Code of the Federal Regulations, Part 51, Section  
73 166, paragraph (b)(1)(i)(a) and has the potential to emit more than 100 tons per year of  
74 several pollutants.
- 75 4. The modernization project will be a major modification of the mill because emissions of  
76 carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and fine particulate  
77 matter (PM<sub>10</sub>) will be increased by more than 100 tons per year.

- 78 5. The site of the proposed modification is within an area designated Class II for the  
79 purposes of PSD evaluation, under 40 CFR 52.21 as amended through January 1, 1992.
- 80 6. The site of the proposed modification is within an area which is in attainment for all  
81 pollutants regulated by state and national ambient air quality standards.
- 82 7. The emissions of CO, NO<sub>x</sub>, SO<sub>2</sub>, total reduced sulfur (TRS), total particulate matter  
83 (PM), PM<sub>10</sub>, and volatile organic compounds (VOCs) from the proposed modification  
84 will have "net significant increases" and are therefore subject to PSD review in addition  
85 to new source review (NSR).
- 86 8. The emissions of all other air pollutants from the proposed modification are subject to  
87 NSR.
- 88 9. Best available control technology (BACT) as required under WAC 173-400-110 (3)(a)  
89 and toxic best available control technology (T-BACT) as required under WAC 173-460-  
90 060 will be used for the control of all air pollutants which will be emitted by the  
91 proposed modernization.
- 92 10. The emissions units which will be constructed or modified will have the potential to emit  
93 up to 3,165 tons per year of CO. The emissions units subject to permitting action  
94 presently generate 1,693 tons per year of CO. After subtraction of an emission reduction  
95 credit (ERC) of 16 tons per year, the proposed modification will result in a net potential  
96 increase of 1,456 tons of CO per year.
- 97 11. The emissions units which will be constructed or modified will have the potential to emit  
98 up to 1,468 tons per year of NO<sub>x</sub>. The emissions units subject to permitting action  
99 presently generate 561 tons per year of NO<sub>x</sub>. After subtraction of an ERC of 292 tons per  
100 year, the proposed modification will result in a net potential increase of 615 tons of NO<sub>x</sub>  
101 per year.
- 102 12. The emissions units which will be constructed or modified will have the potential to emit  
103 up to 1,031 tons per year of SO<sub>2</sub>. The emissions units subject to permitting action  
104 presently generate 96 tons per year of SO<sub>2</sub>. After subtraction of an ERC of 431 tons per  
105 year, the proposed modification will result in a net potential increase of 504 tons of SO<sub>2</sub>  
106 per year.
- 107 13. The emissions units which will be constructed or modified will have the potential to emit  
108 up to 45 tons per year of TRS. The emissions units subject to permitting action presently  
109 generate 10 tons per year of TRS. After subtraction of an ERC of 18 tons per year, the  
110 proposed modification will result in a net potential increase of 17 tons of TRS per year.
- 111 14. The emissions units which will be constructed or modified will have the potential to emit  
112 up to 355 tons per year of total particulate matter (PM). The emissions units subject to  
113 permitting action presently generate 161 tons per year of PM. After subtraction of an

- 114 ERC of 122 tons per year, the proposed modification will result in a net potential increase  
115 of 72 tons per year of PM.
- 116 15. The emissions units which will be constructed or modified will have the potential to emit  
117 up to 351 tons per year of particulate matter less than or equal to 10 microns in  
118 aerodynamic diameter (PM<sub>10</sub>). The emissions units subject to permitting action presently  
119 generate 161 tons per year of PM<sub>10</sub>. After subtraction of an ERC of 46 tons per year, the  
120 proposed modification will result in a net potential increase of 144 tons per year of PM<sub>10</sub>.
- 121 16. The emissions units which will be constructed or modified will have the potential to emit  
122 up to 241 tons per year of VOC. The emissions units subject to permitting action  
123 presently generate 30 tons per year of VOC. After subtraction of an ERC of 137 tons per  
124 year, the proposed modification will result in a net potential increase of 74 tons of VOC  
125 per year.
- 126 17. Visibility impairment will not be perceptibly increased in any Class I area. There may be  
127 an increase in visibility impairment in the Columbia River Gorge Scenic Area for some  
128 viewing conditions due to the proposed emissions.
- 129 18. Allowable emissions increases from the new and modified emissions units, in  
130 conjunction with all other applicable emissions increases or reductions (including  
131 secondary emissions) will not cause or contribute to air pollution in violation of:
- 132 18.1. Any national ambient air quality standard;  
133 18.2. Any applicable maximum allowable increase over the baseline concentration  
134 in any area.
- 135 19. Odors from the source will be kept to a reasonable minimum.
- 136 20. Emissions of toxic air pollutants have been addressed as required under Chapter 173-460  
137 WAC and considered in the determination of BACT as per EPA guidance relating to  
138 implementation of 40 CFR 52.21.
- 139 21. No noticeable effect on industrial, commercial, or residential growth in the Longview  
140 area is anticipated due to the project.
- 141 22. Ecology finds that all requirements for PSD and NSR are satisfied and that as approved  
142 below, the new and modified emissions units comply with all applicable federal new  
143 source performance standards. Approval of the PSD application and notice of  
144 construction are granted subject to the following conditions.

145

#### 146 **PSD APPROVAL CONDITIONS**

- 147 1. CO emissions from the fiber line (including the MCC kraft digester and associated  
148 washing and screening facilities, as well the chemical bleach plant) shall not exceed the  
149 limits of 349 pounds per hour on an hourly average or 300 tons per year as measured by  
150 EPA Reference Method 10. Exceedance of these limits shall not be considered an

- 151 enforceable violation until: one year from the effective date of this Approval, or when  
152 Ecology has set enforceable limits that shall reflect BACT and good operating and  
153 maintenance practice, based upon representative test data to be collected by  
154 Weyerhaeuser; whichever is earlier.
- 155 2. Total particulate (PM) emissions from Kraft Recovery Boiler No. 10:
- 156 2.1 Shall not exceed 0.027 grain per dry standard foot (gr/dscf) corrected to 8.0  
157 percent oxygen as measured by EPA Reference Method 5 or an equivalent  
158 method approved by Ecology.
- 159 2.2 Testing shall be done at approximate three month intervals (quarterly). Should a  
160 quarterly test fail, the test frequency shall be monthly until three consecutive  
161 monthly tests pass (after which testing may return to a quarterly schedule until the  
162 next failure).
- 163 2.3 PM emissions from Kraft Recovery Boiler No. 10 shall not exceed 0.020 gr/dscf  
164 corrected to 8.0 percent oxygen on an annual average or 252 tons per year.
- 165 3. Fine particulate matter (particulate finer than 10 micrometers in diameter, hereafter  
166 referred to as PM<sub>10</sub>) from Kraft Recovery Boiler No. 10:
- 167 3.1 Shall not exceed 0.027 grain per dry standard foot (gr/dscf) corrected to 8.0  
168 percent oxygen as measured by EPA Reference Method 5, front and back half  
169 (filter and impinger capture).
- 170 3.2 Testing shall be done at approximate three month intervals (quarterly). Should a  
171 quarterly test fail, the test frequency shall be monthly until three consecutive  
172 monthly tests pass (after which testing may return to a quarterly schedule until the  
173 next failure).
- 174 3.3 PM<sub>10</sub> emissions from Kraft Recovery Boiler No. 10 shall not exceed 0.020 gr/dscf  
175 corrected to 8.0 percent oxygen on an annual average or 252 tons per year.
- 176 4. Opacity from the No. 10 Recovery Boiler stack shall not exceed an average of 20 percent  
177 as measured by EPA Reference Method 9 or as measured by a continuous emission  
178 monitoring system which meets the requirements of condition 31.
- 179 5. SO<sub>2</sub> emissions the No. 10 Recovery Boiler and the Noncondensable Gas Incinerator:
- 180 5.1 When firing black liquor solids without supplemental oil or when firing black  
181 liquor solids at 120,000 lbs./hr. or more with supplementary oil: SO<sub>2</sub> emissions  
182 from the No. 10 Recovery Boiler and the Noncondensable Gas Incinerator, when  
183 combined at the No. 10 Recovery Boiler stack, shall not exceed 75 ppm<sub>dv</sub>  
184 corrected to 8.0 percent oxygen on a 3-hour average.
- 185 5.2 When firing black liquor solids at less than 120,000 lbs./hr. with supplementary  
186 oil: SO<sub>2</sub> emissions from the No. 10 Recovery Boiler and the Noncondensable Gas  
187 Incinerator, when combined at the No. 10 Recovery Boiler stack, shall not exceed

- 188 500 parts per million on a dry volume basis (ppmdv) corrected to 8.0 percent  
189 oxygen on a 3-hour average.
- 190 5.3 For purposes of determining the applicable SO<sub>2</sub> emissions limit for an averaging  
191 period containing both the above firing conditions, the limit for the operating  
192 condition used for over half the period shall apply.
- 193 5.4 All SO<sub>2</sub> emissions from the No. 10 Recovery Boiler stack shall be measured by a  
194 continuous emission monitoring system which meets the requirements of  
195 condition 32. SO<sub>2</sub> emissions from the No. 10 Recovery Boiler and  
196 Noncondensable Gas Incinerator stack shall not exceed 586 tons per year plus  
197 0.036 ton per year for every hour per calendar year of Noncondensable Gas  
198 Incinerator operation, with the total not to exceed 884 tons per year.
- 199 6. Emissions of reduced sulfur compounds (TRS) from the No. 10 Recovery Boiler and the  
200 Noncondensable Gas Incinerator, when combined at the No. 10 Recovery Boiler stack,  
201 shall not exceed 5.0 ppmdv corrected to 8.0 percent oxygen on a 12-hour average as  
202 measured by EPA Reference Method 16 or 16A. TRS emissions shall be measured by a  
203 continuous emission monitoring system which meets the requirements of condition 31.  
204 TRS emissions from the No. 10 Recovery Boiler shall not exceed 31 tons per year.
- 205 7. NO<sub>x</sub> emissions from the No. 10 Recovery Boiler shall not exceed 140 ppmdv corrected  
206 to 8.0 percent oxygen on a 24-hour average. EPA Reference Method 7, 7A, 7B or 7E  
207 shall be used to determine initial compliance with NO<sub>x</sub> emission limitations. NO<sub>x</sub>  
208 emissions shall be measured by a continuous emission monitoring system which meets  
209 the requirements of condition 32. NO<sub>x</sub> emissions from the No. 10 Recovery Boiler shall  
210 not exceed 1,179 tons per year.
- 211 8. CO emissions from the No. 10 Recovery Boiler shall not exceed 1,000 ppmdv on an  
212 hourly average or 2,564 tons per year as measured by EPA Reference Method 10.
- 213 9. VOC emissions from the No. 10 Recovery Boiler shall not exceed 50 ppmdv on an  
214 hourly average or 201 tons per year as measured by EPA Reference Method 25, 25A or  
215 25B.
- 216 10. Temperature of the gases entering the No. 10 Recovery Boiler ESP shall not exceed an  
217 hourly average of 500° F in order to minimize the emissions of heavy metal compounds.
- 218 11. All sources of noncondensable gases and vapors from the digestion and evaporation  
219 processes of the mill that are not condensed by the equipment used in those processes  
220 shall be treated by incineration or its equivalent in accordance with the NCG/TRS  
221 collection and treatment system proposal agreed to by Ecology in the November 23, 1993  
222 Mike Hoyles - Ecology letter to Ken Johnson and David Farris - Weyerhaeuser (attached  
223 as Appendix B). Exhaust from the Noncondensable Gas Incinerator may be ducted to and  
224 combined with the exhaust from the No. 10 Recovery Boiler. When the Noncondensable

- 225 Gas Incinerator is not operating, high concentration noncondensibles shall be treated by  
226 backup incineration or its equivalent.
- 227 12. TRS emissions from the Noncondensable Gas Incinerator shall not exceed 5.0 ppm<sub>dv</sub>  
228 corrected to 10.0 percent oxygen on a 12-hour average. TRS emissions from the  
229 Noncondensable Gas Incinerator shall be measured by a continuous emission monitoring  
230 system that meets the requirements of condition 31. Weyerhaeuser may propose an  
231 alternative means for verifying compliance with this condition. Weyerhaeuser shall  
232 provide data to support any such alternative technique and receive approval by Ecology  
233 prior to utilization of any such technique. Any alternative technique proposed by  
234 Weyerhaeuser shall contain installation, operation and maintenance specifications no less  
235 stringent than those contained in condition 31.
- 236 13. SO<sub>2</sub> emissions from the Noncondensable Gas Incinerator shall not exceed 300 ppm<sub>dv</sub>  
237 corrected to 7.0 percent oxygen on a 1-hour average. SO<sub>2</sub> emissions from the  
238 Noncondensable Gas Incinerator shall be measured by a continuous emission monitoring  
239 system which meets the requirements of condition 31, installed prior to the connection  
240 with the recovery boiler stack. Weyerhaeuser may propose an alternative means for  
241 verifying compliance with this condition, such as continuously monitoring and recording  
242 pH of the Noncondensable Gas Incinerator scrubber liquor. Weyerhaeuser shall provide  
243 data to support any such alternative technique and receive approval by Ecology prior to  
244 utilization of any such technique. Any alternative technique proposed by Weyerhaeuser  
245 shall contain installation, operation and maintenance specifications no less stringent than  
246 those contained in condition 31.
- 247 14. PM<sub>10</sub> emissions from the Smelt Dissolver Tank Vent:
- 248 14.1 Shall not exceed 0.120 pound per ton of black liquor solids fired (dry weight) as  
249 measured by EPA Reference Method 5 or an equivalent method approved in  
250 advance by Ecology.
- 251 14.2 Testing shall be done at approximate three month intervals (quarterly). Should a  
252 quarterly test fail, the test frequency shall be monthly until three consecutive  
253 monthly tests pass (after which testing may return to a quarterly schedule until the  
254 next failure). All particulate matter collected by this method will be assumed to be  
255 PM<sub>10</sub>.
- 256 14.3 PM<sub>10</sub> emissions from the Smelt Dissolver Tank Vent shall not exceed 62.0 tons  
257 per year.
- 258 15. Opacity from the Smelt Dissolver Tank Vent Stack shall not exceed 20 percent as  
259 measured by EPA Reference Method 9.
- 260 16. Emissions of reduced sulfur compounds (TRS) from the Smelt Dissolver Tank Vent:

- 261 16.1 Shall not exceed 0.0168 pound per ton black liquor solids on a daily average as  
262 measured by EPA Reference Method 16 or 16A.
- 263 16.2 Testing shall be done at approximate three month intervals (quarterly). Should a  
264 quarterly test fail, the test frequency shall be monthly until three consecutive  
265 monthly tests pass (after which testing may return to a quarterly schedule until the  
266 next failure).
- 267 16.3 The Smelt Dissolver Tank Vent shall not emit more than 9.0 tons of TRS per  
268 year.
- 269 17. Pipeline quality natural gas shall be the only fuel supplied to and used to fire the Package  
270 Boiler.
- 271 18. PM<sub>10</sub> emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed  
272 2.09 pounds per hour or 4.0 tons per year. Initial performance testing shall be by EPA  
273 Reference Method 5, under the assumption that 100 percent of the particulate measured  
274 by that method is PM<sub>10</sub>.
- 275 19. Opacity from the Package Boiler stack shall not exceed 10 percent as measured by EPA  
276 Reference Method 9.
- 277 20. SO<sub>2</sub> emissions from the Package Boiler stack shall not exceed 3.0 pounds over any three  
278 hour period or 1.0 ton per year.
- 279 21. NO<sub>x</sub> emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed  
280 0.048 pounds per million BTU heat input, 40 ppm<sub>dv</sub> corrected to 3.0 percent oxygen on a  
281 daily average, or 37.5 tons per year. Initial compliance shall be determined by EPA  
282 Reference Methods 1, 2, 3, 4 and 7, 7A, 7B or 7E. NO<sub>x</sub> emissions shall be measured by a  
283 continuous emission monitoring system which meets the requirements of condition 31.
- 284 22. CO emissions from the Package Boiler stack shall not exceed 30 pounds per hour or 80  
285 tons per year as measured by EPA Reference Method 10.
- 286 23. VOC emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed  
287 1.0 pound per hour or 1.0 ton per year. Compliance shall be determined by EPA  
288 Reference Method 25 or 25A or 25B.
- 289 24. With the exception of PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, and TRS, the net emissions increase  
290 of any pollutant regulated under the Federal Clean Air Act shall be less than the  
291 significant levels in 40 CFR 52.21(b)(23)(i).
- 292 25. Sampling ports and platforms must be provided for each affected emissions unit, after the  
293 final pollution control device. The ports must meet the requirements of 40 CFR, Part 60,  
294 Appendix A, Method 1. Other arrangements may be acceptable if approved in advance by  
295 Ecology prior to installation. Adequate permanent and safe access to the test ports must  
296 be provided.

- 297 26. Within 60 days after achieving maximum production, but not later than 180 days after  
298 start-up by any emissions unit affected by the modification, Weyerhaeuser shall conduct  
299 performance tests at that emissions unit, for the appropriate pollutants, to be performed  
300 by an independent testing firm. Ecology may modify these timing constraints in order  
301 that the emissions units are tested at conditions approximating maximum production rate.  
302 All tests shall be conducted in accordance with the appropriate methods set forth in Title  
303 40 Code of the Federal Regulations Part 51 Appendix M and Part 60 Appendix A as  
304 amended through July 1, 1995. Each performance test shall consist of three separate runs  
305 using the applicable test method, with the overall test result to be an arithmetic average of  
306 the results of the three test runs, in accordance with 40 CFR 60.8(f). A test plan shall be  
307 submitted for Ecology's approval at least 30 days prior to the testing. The initial tests and  
308 test methods shall include, but may not be limited to, the following:
- 309 26.1. Particulate matter as measured by Reference Method (RM) 5 and as modified by  
310 40 CFR 60.285(b).
  - 311 26.2. PM<sub>10</sub>, as measured by RM 201 or 201A.
  - 312 26.3. Opacity, as measured by RM 9.
  - 313 26.4. Sulfur dioxide, as measured by RM 6, 6A, 6B, or 6C.
  - 314 26.5. Nitrogen oxides as measured by RM 7, 7A, 7B, or 7E.
  - 315 26.6. Carbon monoxide, as measured by RM 10.
  - 316 26.7. Volatile organic compounds, as measured by RM 25, 25A, or 25B.
  - 317 26.8. Total reduced sulfur as measured by RM 16, 16A, or 16B.
- 318 27. Weyerhaeuser may propose amendments to the emission limits contained in this  
319 Approval. To do so, Weyerhaeuser must first conduct a study, on each emissions unit  
320 affected by the Approval, to run for a period of time to be determined by Ecology.  
321 During the course of the study Weyerhaeuser shall determine emission characteristics  
322 and predicted ambient impacts of each emissions unit during:
- 323 27.1. Steady-state operation at several points within the normal operating range;
  - 324 27.2. Startup, with time duration to be specified; and
  - 325 27.3. Shutdown, with time duration to be specified.
- 326 28. Upon completion of each study, and submission of a complete application, Weyerhaeuser  
327 may request amendment of appropriate emission limits contained in this Approval.  
328 Ecology may then amend this Approval in order to set higher limits for specified periods  
329 of time during startup and shutdown, and lower limits for steady-state operation. Such  
330 amendments shall not allow any increase in annual emissions or any violation of an  
331 ambient air standard or PSD increment.
- 332 29. Any emissions source testing required in conditions 1 through 23 shall be performed  
333 utilizing the appropriate test methodology required in condition 26, no less frequently

334 than specified in the attached Appendix to this PSD, Emission Limitations for PSD  
335 Approval and Order 92AQ1069, unless:

- 336 29.1. An alternative schedule based upon measured emissions relative to the  
337 appropriate emissions limitation has been approved in advance by Ecology;
- 338 29.2. A different sampling schedule has been ordered in a condition; or
- 339 29.3. Weyerhaeuser has proposed and demonstrated the equivalency of an alternative  
340 compliance demonstration method, such as monitoring of operating parameters,  
341 and such method has been approved in advance by Ecology.

342 Ecology may require resumption of a more frequent source testing schedule if measured  
343 emission levels increase above the levels which were used to establish the alternative  
344 schedule, or Ecology determines that additional testing is necessary to validate  
345 assumptions used to demonstrate compliance by measuring operating parameters.

346 30. Annual emissions for units that are tested in accordance with condition 29 shall be  
347 computed over the established emission inventory reporting period. Annual emissions for  
348 each unit shall be computed by multiplying each measured emission rate by the fraction  
349 of the reporting period that elapses until the next test at that emissions unit, then taking  
350 the sum of the products.

351 31. Any continuous emission monitoring system required in conditions 1 through 23 shall  
352 conform with EPA Title 40 Code of the Federal Regulations, Part 60, Appendix B  
353 Performance Specifications as indicated below, unless otherwise approved by Ecology:

354 31.1. Continuous emission monitoring systems for opacity - Performance Specification  
355 1.

356 31.2. Continuous emission monitoring systems for SO<sub>2</sub> and NO<sub>x</sub> - Performance  
357 Specification 2.

358 31.3. Continuous emission monitoring systems for O<sub>2</sub> and CO<sub>2</sub> - Performance  
359 Specification 3.

360 31.4. Continuous emission monitoring systems for TRS - Performance Specification 5.

361 In addition, before initial start-up a continuous emission monitoring quality assurance  
362 plan conforming with 40 CFR 60 Appendix F and Recommended Quality Assurance  
363 Procedures for Opacity Continuous Emission Monitoring Systems (EPA 340/1-86-010)  
364 and acceptable to Ecology must be submitted and Ecology may require the plan to be  
365 periodically updated.

366 32. Weyerhaeuser may utilize alternative means, such as predictive emission monitoring  
367 systems (PEMS) in place of a CEMS required in conditions 1 through 23 after obtaining  
368 written approval by Ecology. Any proposed alternative shall be at a minimum equivalent  
369 to a CEMS which meets the requirements of condition 31.

- 370 33. Each occurrence of monitored emissions or alternative parameters, where applicable, in  
371 excess of the limits set above shall be reported at least monthly within thirty days of the  
372 end of each calendar month and in a format approved in advance by Ecology which shall  
373 include but not be limited to the following:
- 374 33.1. The time of the occurrence.
  - 375 33.2. Magnitude of the emission or process parameters excess.
  - 376 33.3. The duration of the excess.
  - 377 33.4. The probable cause.
  - 378 33.5. Any corrective actions taken or planned.
  - 379 33.6. Any other agency contacted.
- 380 34. Operating and maintenance manuals for all equipment constituting parts of or contained  
381 in the emissions units proposed for modification or as new construction and that has the  
382 potential to affect emissions to the atmosphere shall be maintained on-site. Copies of the  
383 manuals shall be available to Ecology. Weyerhaeuser shall develop and follow an  
384 operation and maintenance plan to implement procedures and control methods described  
385 in the PSD/NOC application as T-BACT prior to startup of any new or modified  
386 emissions units or process equipment, in accordance with WAC 173-460-040 (8). This  
387 O&M plan shall be incorporated into the operation and maintenance manuals. Excess  
388 emissions that result from a failure to follow the requirements of the manuals may be  
389 considered proof that the equipment was not properly operated and maintained in  
390 accordance with RCW 70.94.152 (5).
- 391 35. This approval shall become void for any emissions unit if construction of that emissions  
392 unit is not commenced within eighteen (18) months after receipt of final approval, or if  
393 construction or operation of that emissions unit is discontinued for a period of eighteen  
394 (18) months.
- 395 36. Any activity which is undertaken by Weyerhaeuser or others, in a manner which is  
396 inconsistent with the application and this determination, shall be subject to Ecology  
397 enforcement under applicable regulations. Nothing in this determination shall be  
398 construed so as to relieve Weyerhaeuser of its obligations under any state, local, or  
399 federal laws or regulations.
- 400 37. Weyerhaeuser shall notify Ecology in writing at least thirty days prior to start-up by any  
401 of the sources affected by the modification.
- 402 38. Access to the source by the U.S. Environmental Protection Agency (EPA), Ecology or  
403 local regulatory personnel shall be permitted upon request for the purpose of compliance  
404 assurance inspections. Failure to allow access is grounds for action under the Federal  
405 Clean Air Act or the Washington Clean Air Act.  
406

407 Reviewed by:

408 \_\_\_\_\_  
409 Bernard Brady, P.E. Date  
410 Air Quality Program  
411 Washington Department of Ecology

412  
413 Approved by:

414 \_\_\_\_\_  
415 Mary Burg Date  
416 Manager, Air Quality Program  
417 Washington Department of Ecology

418 \_\_\_\_\_  
419 Carol Kraege Date  
420 Supervisor, Industrial Section  
421 Washington Department of Ecology  
422

*Ecology has been advised by USEPA Region X that USEPA co-approval of amendments to this PSD are not required unless said amendments alter conditions related to nitrogen oxide emissions (e-mail from Ray Nye, USEPA Region X PSD Specialist, to Bernard Brady, Ecology, February 4, 1999).*

423 \_\_\_\_\_  
424 Signature line reserved as-needed for  
425 Director of the Office of Air Quality  
426 United States Environmental Protection Agency, Region X

**APPENDIX A - EMISSION LIMITATIONS for PSD APPROVAL-92-03 and ORDER 92AQ1069**

<b>Emissions Unit</b>	<b>Pollutant</b>	<b>Limit</b>	<b>Averaging time</b>	<b>Test Method</b>	<b>Frequency<sup>1</sup></b>	
Fiber line	CO	349 pounds per hour	Avg. of 3 1-hr runs	RM 10	Initial compliance	
	CO	300 tons per year	Annual			
No. 10 Recovery Boiler	PM	0.027 gr/dscf @ 8.0 % O <sub>2</sub>	Avg. of 3 1-hr runs	RM 5	Quarterly	
	PM	0.020 gr/dscf @ 8.0 % O <sub>2</sub>	Annual	Σ of RM tests	Annual	
	PM	252 tons per year	Annual	Σ of RM tests	Annual	
	PM <sub>10</sub>	0.027 gr/dscf @ 8.0 % O <sub>2</sub>	Avg. of 3 1-hr runs	RM 5	Quarterly	
	PM <sub>10</sub>	0.020 gr/dscf @ 8.0 % O <sub>2</sub>	Annual	Σ of RM tests	Annual	
	PM <sub>10</sub>	252 tons per year	Annual	Σ of RM tests	Annual	
	Opacity	20 %			RM 9 or CEMS	
	SO <sub>2</sub>	when firing 120,000 lb./hr. or more black liquor solids	75 ppmdv @ 8.0 % O <sub>2</sub>	3-hr	CEMS	CEMS continuous
	SO <sub>2</sub>	when firing less than 120,000 lb./hr. black liquor solids w/ supp. oil	500 ppmdv @ 8.0 % O <sub>2</sub>			
SO <sub>2</sub>	586 tpy, + 0.036 tpy for each hr operation of NCG incinerator, not to exceed 884 tpy		Annual	Σ of CEMS data	Annual	
TRS	5.0 ppmdv @ 8.0 % O <sub>2</sub>		12-hr	RM 16 or 16A and CEMS	CEMS continuous	
TRS	31 tpy		Annual	Σ of CEMS data	Annual	
NO <sub>x</sub>	140 ppmdv @ 8.0 % O <sub>2</sub>		24-hr	RM 7, 7A, 7B. or 7E and CEMS	CEMS continuous	
NO <sub>x</sub>	1,179 tpy		Annual	Σ of CEMS data	CEMS continuous	
CO	1,000 ppmdv		Hourly	RM 10	Initial compliance	
CO	2,564 tpy		Annual			

**APPENDIX A - EMISSION LIMITATIONS for PSD APPROVAL-92-03 and ORDER 92AQ1069**

<b>Emissions Unit</b>	<b>Pollutant</b>	<b>Limit</b>	<b>Averaging time</b>	<b>Test Method</b>	<b>Frequency<sup>1</sup></b>
NCG Incinerator	VOC	50 ppmdv	Hourly	RM 25, 25A, or 25B	Initial compliance
	VOC	201 tpy	Annual		
	TRS	5.0 ppmdv @ 10.0 % O <sub>2</sub>	12-hr	RM 16 or 16A and CEMS	CEMS continuous
Smelt Dissolver Tank Vent	SO <sub>2</sub>	300 ppmdv @ 7.0 % O <sub>2</sub>	1-hr	RM 6 and CEMS	CEMS continuous
	PM <sub>10</sub>	0.120 lb/TBLS	Avg. of 3 1-hr runs	RM 5	Quarterly
	PM <sub>10</sub>	62.0 tons per year	Annual	Σ of RM tests	Annual
Package Boiler (150k lb/hr steam rated capacity)	Opacity	20 %		RM 9	
	TRS	0.0168 lb/TBLS	Daily	RM 16 or 16A	Quarterly
	TRS	9.0 tons per year	Annual	Σ of RM data	Annual
	PM <sub>10</sub>	2.09 lb/hr		RM 5	Initial compliance
	PM <sub>10</sub>	4.0 tpy			Initial compliance
	Opacity	10 %		RM 9	
	SO <sub>2</sub>	3.0 lb/hr	3-hrs	RM 6	Initial compliance
NO <sub>x</sub>	SO <sub>2</sub>	1.0 tpy	Annual		
	NO <sub>x</sub>	0.048 lb/MMBtu @ 3.0 % O <sub>2</sub>	Daily	RM 7 and CEMS	RM - initial compliance; CEMS continuous
	NO <sub>x</sub>	40 ppmdv	Daily	RM 7 and CEMS	RM - initial compliance; CEMS continuous
	NO <sub>x</sub>	37.5 tpy	Annual	Σ of CEMS data	Annual
	CO	30 lb/hr	Hourly	RM 10	Initial compliance
VOC	CO	80 tpy	Annual		
	VOC	1.0 lb/hr	Hourly	RM 25, 25A, or 25B	Initial compliance
	VOC	1.0 tpy	Annual		

1. Unless otherwise approved by Ecology.

# Appendix B

Mike Hoyles' letter

to

Ken Johnson

Weyerhaeuser

November 23, 1993



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. BOX 47600 • Olympia, Washington 98504-7600 • (206) 459-6000

November 23, 1993

Ken Johnson  
Washington Environmental Affairs Manager  
Weyerhaeuser Corporate Headquarters  
Tacoma, WA 98477

David Farris  
Weyerhaeuser Paper Company  
Senior Environmental Engineer  
PO Box 188  
Longview, WA 98632

Dear Mr. Johnson and Mr. Farris:

Thank you for your proposal and supporting documentation for the collection and treatment of NCG/TRS sources as required in PSD Approval Condition #10. We also appreciate all you have done to help us understand this complex collection system.

After significant discussions with Weyerhaeuser personnel pertaining to the NCG collection system on their Longview Kraft Modernization project we have learned the following facts:

- o For the purposes of this discussion, there are three types of NCG/TRS gases to be dealt with. These are High Concentrated Low Volume (HCLV), Low Concentrated High Volume (LCHV) and an intermediate stream that is neither HCLV or LCHV.
- o The principle treatment device for NCGs, an incinerator, is expected to be down for repair, maintenance and other reasons for 4 to 14 hours per month, but usually less than 6 hours. During this time NCG's will either be vented or incinerated in the lime kiln depending on their origin and concentration.
- o The company's principle consideration for venting is to maintain the safety of the mill and mill personnel.
- o Only sources emitting greater than 5 ppm Total Reduced Sulfur (TRS) is being considered for collection, transport and incineration. This does not mean we agree with this criteria.
- o During incinerator downtime:
  - Only High Concentration (HC) gases will be incinerated in the lime kiln.
  - The chip bin will receive clean steam that will then be vented to the atmosphere through the LEL safety vent. Any residual

LC gases in the chip bin would then be forced into the atmosphere. The gases from the flash tanks would be diverted to the high concentration system, diverting about 90% of the sulfur compounds in the LC system.

- The fan that normally provides suction from storage tanks would be shut down.
- o 9% of the LC gases are from the various fiber and liquor tanks. These are equipped with two way vents which allow air to come in but not escape. They allow air to enter the tank if the vacuum control on the LC header fails. Water seals or other devices will prevent gases from escaping unless there is sufficient pressure buildup to damage equipment or present a safety hazard.
- o Anytime, even when the incinerator is running, the concentration of gases from the chip bin may raise above the Lower Explosive limit (a chip bin upset) and should not be mixed with the LC gases from the fiber and liquid tanks or collected in the NCG system. When this occurs this stream will be vented through the LEL safety vent directly to the atmosphere and the chip bin is switched to live steam until the condition is corrected. At that time, TRS gases from the fiber and liquid tanks will still be collected and transported to the incinerator for incineration.
- o LC gases will be collected from the following sources:
  - Digester Chip Bin
  - Brownstock Press Standpipe
  - Brownstock Press
  - Brownstock Press Feed Tank
  - Brownstock Press Filtrate Tank
  - Primary Screens Filtrate Surge Tank
  - Blow Tanks/Pressure Diffuser Filtrate Tank (three total)
  - Black Liquor Storage Tanks
- o There are two NCG fans for the LC system. One is the Chip Bin Relief Fan (No. 16-05-2290) for the Digester Chip Bin and the other is the LC NCG fan (No. 16-20-2840). The HC gases are moved to the incinerator using steam educators.
- o Concentrations of TRS gases from many miscellaneous sources are lower than from typical old-style kraft mills due to the design of the EMCC continuous digester and pressure diffuser type of pulp washing.
- o NCG laden digester flash steam will not be released to the chip bin when the Chip Bin Relief Fan fails, when the Low Concentration NCG fan fails or when the Incinerator fails (this may include when the incinerator is down).

Mr. Johnson and Mr. Farris  
November 23, 1993  
Page Three

- o When the Chip Bin Relief Fan fails, fresh clean steam will be added to the chip bin. It is our understanding that the use of digester flash steam to pre-steam the chips is an integral part of the Kaymr continuous digestion process. The digester flash steam is vented to the High Concentration system.
- o During periods of Low Concentration NCG fan failure or when the Incinerator fails, a vent (or vents) will open allowing natural ventilation of the fiber and liquor tanks (except the Black Liquor Tank Farm) thus preventing the cooling and concentration of TRS gases into potentially explosively pockets.
- o Liquor storage tanks will have water traps on the tank overflows that will prevent venting. The liquor storage tanks will have vents that allow air to be pulled into or vented from the vessel to prevent venting except when equipment damage is eminent or hazards to personnel safety is probable.
- o In the event of a fan or incinerator failure, the LC manifold system will be sealed to prevent the escape of the gases. The liquor tank system will be shut off from the digester area tanks. This will effectively seal the tank system, however, prior to sending the contained NCG's to the incinerator, the manifold will be purged and vented to the atmosphere for a period of 5 to 10 minutes.
- o It would be unsafe to have the methanol/water mixture sent to the recovery furnace because of its water content. There is an explosion hazard if the water comes in contact with the smelt.
- o The existing SO2 standards for the Hog Fuel Boiler precludes incinerating LC there.
- o There is approximately 15,000 feet of stainless steel pipe in the NCG collection system.

Assuming these are correct, Ecology approves, as required in condition #10 of PSD/NOC Order No. 92AQ1069, Weyerhaeuser's NCG/TRS treatment system as proposed.

We have also reviewed your request to consider foul condensates as pulping liquors. We agree that these are a "pulping liquor", when managed as proposed, and are exempt from consideration as solid waste under 173-303 WAC.

If you have any questions, feel free to contact Mike Hoyles at (206)407-6935.

Sincerely,



Mike Hoyles, P.E.  
Industrial Section

cc: Robert Carruthers

